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DEAD LOCK AVOIDING SYSTEM FOR DATA DRIVEN PROCESSOR

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ABSTRACT

PURPOSE: To efficiently and economically avoid the dead lock of a queue buffer by temporarily storing tokens overflowing from the queue buffer in a common external memory through a private bus.

CONSTITUTION: A queue buffer 5 and an external memory 13 on a circulating pipeline of a processor 10 are connected by a private bus 14, and it is discriminated whether the queue buffer 5 is filled up with tokens or not by an overflow discriminating means 11. When the means 11 discriminates that the queue buffer 5 is filled up with tokens, tokens overflowing from the queue buffer 5 are written in the external memory 13 through the private bus 14 by a token writing/reading means 12; but otherwise, tokens stacked in the external memory 13 and overflowed are read out to the queue buffer 5 through the private bus 14. Thus, the dead lock of the queue buffer due to overflow of tokens is automatically avoided.